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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,360	03/25/2004	Samad M. Edlou	1857.0870001	4756

26111 7590 01/23/2006

STERNE, KESSLER, GOLDSTEIN & FOX PLLC  
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WASHINGTON, DC 20005

EXAMINER
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LAVARIAS, ARNEL C

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 01/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/808,360	EDLOU ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Amel C. Lavarias	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10/17/05, 6/23/05, 1/4/05, 8/23/04, 3/25/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/17/05, 6/23/05, 1/4/05, 8/23/04, 3/25/04</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 120.

### ***Information Disclosure Statement***

2. The 4733926A document, listed in the 'U.S. Patent Documents' section of PTO-1449 dated 10/17/05, has been lined through, since it was already cited in the PTO-1449 dated 3/25/04.
3. The 5339441 document, listed in the 'U.S. Patent Documents' section of PTO-1449 dated 8/23/04, has been lined through, since it was already cited in the PTO-1449 dated 3/25/04.

### ***Drawings***

4. The originally filed drawings were received on 3/25/04. These drawings are objected to for the following reason(s) as set forth below.
5. The drawings are objected to because of the following informalities:  
  
Figure 3- the arrow from reference numeral 300 is pointing to the incorrect surface of prism 200A. This arrow should point to the hypotenuse surface of the prism.  
  
Figure 4- Solid black areas pale. Solid black shading not permitted. See 37 CFR 1.84(m).

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Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

6. The disclosure is objected to because of the following informalities:

Paragraph 0021, line 7- delete ‘having’

Paragraph 0026, line 8- ‘721’ should read ‘712’.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-2, 4-7, 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kardos et al. (U.S. Patent No. 5339441), of record.

Kardos et al. discloses a cube (See for example Figures 1-3) comprising an uncoated prism (See 12 in Figure 1); a coated prism (See 13 in Figures 1-3) coupled to a surface of the uncoated prism, the coated prism including a first coating section having a multilayered coating (See 33, 34 in Figure 2), and a second coating section formed on top of the first coating section, the second coating section having a contact layer coating (See 36 in Figure 2). Kardos et al. additionally discloses the contact layer coating being a SiO<sub>2</sub> coating (See col. 3, lines 17-48); the cube being a polarizing cube (See Abstract); and the cube being a beam splitter (See col. 4, lines 52-60; col. 5, lines 18-25).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kardos et al.

Kardos et al. discloses the invention as set forth above in Claims 1-2, 6-7, except for the contact layer coating being a fused silica coating. However, as is extremely well known in the art, and as stated in the article 'Fused quartz' from Wikipedia (See *infra*), fused silica is chemically equivalent to  $\text{SiO}_2$ , but is specially manufactured. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the contact layer coating be a fused silica coating, instead of  $\text{SiO}_2$ , in the device of Kardos et al., to take advantage of the physical properties imparted by fused silica, e.g. extremely low thermal expansion coefficient, high thermal stability, high UV and IR transparency, and high strength.

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

'Fused quartz' article from Wikipedia ('Fused quartz'-

[http://en.wikipedia.org/wiki/Fused\\_quartz](http://en.wikipedia.org/wiki/Fused_quartz)).

The 'Fused quartz' article from Wikipedia is being cited to evidence the particular and well known chemical and physical properties of fused quartz.

'Silicon dioxide' article from Wikipedia ('Silicon dioxide'-

[http://en.wikipedia.org/wiki/Silicon\\_dioxide](http://en.wikipedia.org/wiki/Silicon_dioxide)).

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The 'Silicon dioxide' article from Wikipedia is being cited to evidence the particular and well known properties of silicon dioxide and its various known forms.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 9:30 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Arnel C. Lavarias  
Patent Examiner  
Group Art Unit 2872  
1/19/06